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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,194	12/21/2001	Vitaly Alekseevich Smimov	01830/HG	6249

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EXAMINER

MCINTOSH III, TRAVISS C

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 12/17/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

File Copy

Office Action Summary

Application No.

10/019,194

Applicant(s)

SMIRNOV ET AL.

Examiner

Traviss C McIntosh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Receipt is acknowledged of preliminary amendment filed. The paragraph stating this is a National Phase application has been entered below the title, claims 1-10 have been canceled, and new claims 11-27 have been entered.

An action on the merits of claims 11-27 is contained herein.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

The references submitted in the information disclosure statement have been taken into consideration in light of the portion which was provided in English.

Claim Objections

Claim 11 is objected to because of the following informalities: incorrect spelling of the word "comprising" in line 2 of the claim, and there is no punctuation at the end of the sentence. Appropriate correction is required.

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 20 has the limitation of "the extraction is performed at the

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temperature of 35°C - 40°C” and depends from claim 18. Claim 18 also has the limitation of performing extraction at temperatures from 35°C - 40°C.

Applicant is advised that should claim 15 be found allowable, claim 16 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite as it is unclear what is meant to be encompassed by the recitation of “the rest”. Defining a numerical percentage by reciting “the rest” leaves uncertainty as to exactly what the percentage is of the organic substance and mineral salts in the composition. Clarity is respectfully requested.

Regarding claims 15 and 16, the phrase “such as” renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

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A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 17 recites the broad recitation "acid aqueous solution", and the claim also recites "aqueous solutions of hydrochloric and citric acids" which is the narrower statement of the range/limitation. The claim additionally recites the broad recitation "primary material", and the claim also recites "pre-dried vegetable maize-pulp is used as the primary material" which is the narrower statement of the range/limitation.

Claim 17 is indefinite where the claim recites "grinding". There are no limitations or direction provided for what is to be ground. Clarity is respectfully requested. In an effort to provide compact prosecution the examiner is interpreting "grinding" as "grinding the primary material containing anthocyan".

Claims 21-23 are indefinite where they all recite "extraction is performed by consecutive processing of three lots of vegetable primary material with subsequent removal of processed

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material and adding a new lot of vegetable material into prepared extract". It is unclear what is meant by adding a new lot of vegetable material into prepared extract. Is the prepared extract the processed material which was removed, or the portion which remained? Is extraction performed by consecutively processing three lots of primary material, followed by removal of processed material, followed by adding a new lot of vegetable material, or is extraction performed by consecutively processing one lot of primary material, followed by removing processed material, followed by adding a new lot of vegetable material to the prepared extract, and repeating until three lots have been processed. Clarity is respectfully requested.

All claims which depend from a rejected claim, are rejected as well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kvasenkov et al. (RU 2077543) in view of Hilton et al. (US Patent 4,320,009).

The claims of the instant application are drawn to a method of producing an anthocyanic colorant composition comprising: growing primary material, grinding, extraction by acid aqueous solution in ultrasonic vibration field, filtration, and concentration. Limitations upon the instantly claimed method found in dependent claims include processing of the primary material, specific temperature ranges for performing the method, consecutive processing in lots, as well as specific time and temperature requirements for each lot.

Kvasenkov et al. teach of a method of preparing anthocyanin dye from plant material by extraction with an aqueous solution of an acid in an ultrasonic field, then separating the product (abstract). What is not taught is the process steps involved in the purification and recovery of the anthocyanic colorant, nor to repeat the process whereby consecutively processing three lots of primary material.

Hilton et al. teach to purify an acid extracted anthocyanin solution by filtration while maintaining the temperature at about 45°C and maintaining a pressure drop of about 5 pounds per square inch (column 7, example 1).

It would be obvious to one of ordinary skill in the art at the time the invention was made to use the ultrasonic vibration in aqueous acid solution as taught by Kvasenkov et al. for extracting the anthocyanins and use the filtration under pressure technique of Hilton et al. for concentration and purification because the ultrasonic vibration technique is known in the art to enhance rupturing of the plant cells and thus accelerate mass transfer processes. Additionally, it is known in the art to concentrate a product by filtration, as filtration removes any particles

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which are too large. Further it is obvious to first grow the primary material which contains the anthocyanic material, and then grind the material as these steps are routine in extraction procedures. It is obvious to repeat the process and consecutively process three lots of primary material and one of ordinary skill in the art would have expected the extract to become further purified in each of the three lots, and minimally remain consistent with the preliminary or initial extraction process. One would be motivated to combine the teachings of Kvasenkov et al. and Hilton et al. to incorporate a process which encompasses both the extraction and purification procedures. Using the ultrasonic vibration and acid technique would further allow for cost savings in reagents and solvents which are needed in the standard extraction and concentration processes.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss McIntosh whose telephone number is 703-308-9479. The examiner can normally be reached on M-F 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

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Traviss C. McIntosh
December 12, 2002



James O. Wilson
Supervisory Patent Examiner
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